

Title (en)

COATING LIQUID FOR FORMING OXIDE, METHOD FOR PRODUCING OXIDE FILM, AND METHOD FOR PRODUCING FIELD-EFFECT TRANSISTOR

Title (de)

BESCHICHTUNGSFLÜSSIGKEIT ZUR BILDUNG VON OXID, VERFAHREN ZUR HERSTELLUNG EINES OXIDFILMS UND VERFAHREN ZUR HERSTELLUNG EINES FELDEFFEKTTRANSISTORS

Title (fr)

LIQUIDE DE REVÊTEMENT POUR LA FORMATION D'OXYDE, PROCÉDÉ DE PRODUCTION D'UN FILM D'OXYDE ET PROCÉDÉ DE PRODUCTION D'UN TRANSISTOR À EFFET DE CHAMP

Publication

EP 3544047 A3 20191120 (EN)

Application

EP 19162409 A 20190313

Priority

- JP 2018050358 A 20180319
- JP 2018144226 A 20180731
- JP 2019042647 A 20190308

Abstract (en)

A coating liquid for forming an oxide, the coating liquid including: A element, which is at least one alkaline earth metal; and B element, which is at least one selected from the group consisting of gallium (Ga), scandium (Sc), yttrium (Y), and lanthanoid, wherein when a total of concentrations of the A element is denoted by C_Amg/L and a total of concentrations of the B element is denoted by C_Bmg/L, a total of concentrations of sodium (Na) and potassium (K) in the coating liquid is (C_A+C_B)/10³mg/L or less and a total of concentrations of chromium (Cr), manganese (Mn), iron (Fe), cobalt (Co), nickel (Ni), and copper (Cu) in the coating liquid is (C_A+C_B)/10³mg/L or less.

IPC 8 full level

H01L 21/28 (2006.01); **C23C 18/12** (2006.01); **H01L 29/66** (2006.01)

CPC (source: CN EP KR US)

B05D 3/0254 (2013.01 - KR); **C09D 1/00** (2013.01 - KR); **C09D 7/20** (2018.01 - KR); **C23C 18/1216** (2013.01 - EP US);
H01L 21/02192 (2013.01 - US); **H01L 21/02194** (2013.01 - US); **H01L 21/02565** (2013.01 - US); **H01L 21/02628** (2013.01 - US);
H01L 21/28167 (2013.01 - US); **H01L 21/288** (2013.01 - CN); **H01L 21/445** (2013.01 - EP); **H01L 21/8234** (2013.01 - KR);
H01L 27/1292 (2013.01 - EP); **H01L 29/24** (2013.01 - US); **H01L 29/517** (2013.01 - CN); **H01L 29/66045** (2013.01 - KR);
H01L 29/66765 (2013.01 - US); **H01L 29/66969** (2013.01 - EP US); **H01L 29/78651** (2013.01 - CN); **H01L 29/7869** (2013.01 - CN EP);
H01L 29/7869 (2013.01 - US)

Citation (search report)

- [I] US 2017018650 A1 20170119 - SAOTOME RYOICHI [JP], et al
- [A] US 2002042210 A1 20020411 - MANDAL ROBERT P [US], et al
- [X] US 5244742 A 19930914 - OGII KATSUMI [JP], et al
- [X] JP H11269656 A 19991005 - KOJUNDO KAGAKU KENKYUSHO KK
- [X] US 2012043537 A1 20120223 - KARPOV ANDREY [DE], et al
- [XA] WEI Q ET AL: "Direct patterning ITO transparent conductive coatings", SOLAR ENERGY MATERIALS AND SOLAR CELLS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 68, no. 3-4, 1 June 2001 (2001-06-01), pages 383 - 390, XP004230577, ISSN: 0927-0248, DOI: 10.1016/S0927-0248(00)00370-6
- [A] CHOI B D ET AL: "Degradation of ultrathin oxides by iron contamination", APPLIED PHYSICS LETTERS, AIP PUBLISHING LLC, US, vol. 79, no. 16, 15 October 2001 (2001-10-15), pages 2645 - 2647, XP012029176, ISSN: 0003-6951, DOI: 10.1063/1.1410363
- [A] ALCOCK J R ET AL: "An investigation of dust particles found in a ceramic processing environment", JOURNAL OF THE EUROPEAN CERAMIC SOCIETY, ELSEVIER SCIENCE PUBLISHERS, BARKING, ESSEX, GB, vol. 6, no. 6, 1 January 1990 (1990-01-01), pages 339 - 350, XP024175262, ISSN: 0955-2219, [retrieved on 19900101], DOI: 10.1016/0955-2219(90)90001-V

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3544047 A2 20190925; EP 3544047 A3 20191120; CN 110289311 A 20190927; KR 102215837 B1 20210216; KR 20190110034 A 20190927;
TW 201938490 A 20191001; TW I702186 B 20200821; US 11069780 B2 20210720; US 2019288076 A1 20190919

DOCDB simple family (application)

EP 19162409 A 20190313; CN 201910193477 A 20190314; KR 20190028755 A 20190313; TW 108108519 A 20190313;
US 201916353872 A 20190314